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## PSYCHOLOGY OF LANGUAGE LEARNING

### On spoken-word recognition in a second language

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Listening to the native language is effortless; but listening to a second language can be distressingly hard work. In one respect the non-native listener might be thought to possess an advantage over the native listener, simply because the non-native listener's vocabulary in the language in question is smaller. Extensive psycholinguistic research has established that the recognition of spoken words involves multiple simultaneous activation of word candidates and subsequent competition between them (Cutler, 1999). The more active candidates and the more competition, the slower recognition proceeds. Thus having a smaller vocabulary should at least benefit the recognition of the members of that small set if they are presented, simply because the remainder of the vocabulary will offer less interfering competition.

However, the competitor set turns out to be in fact much larger for the non-native listener. There are two sources of added competition. The first is the first-language vocabulary! Recent studies have established this via use of an experimental technique in which listeners wear a head-mounted camera which tracks the movements of their eyes as they follow spoken instructions to click on objects in a computer display. Using this method, it can be seen that listeners often look at objects with a name in the native language which sounds like the name of the target object in the second language. For example, Dutch listeners presented with a display containing a ladder, a strawberry, a lid and a desk, and instructed in English "click on the desk", may look first at the lid (in Dutch, "deksel"; Weber & Cutler, 2004). This happens even though the listeners are adept in English and the whole experiment is in English. Native English listeners do not look at this pseudo-competitor, of course. Russians living in the US listening to English experience similar interference from Russian pseudo-competitors (Spivey & Marian, 1999), and they can even experience interference from the environmental language English when doing such an experiment in Russian. **When told in English to look at the marker (pen) they might look at the stamp, and told in Russian to look at the stamp (\_marka\_) they might look at the marker pen.** Weber and Cutler (2004) found, however, that no English interference occurred for their Dutch listeners (resident in the Netherlands) if the experiment was in Dutch - i.e., "deksel" as target did not induce looks to the desk.

These results indicate that the effective competitor set in second-language listening can range beyond the words actually known in the second language, and can include the entire native vocabulary. The situation is yet worse, however, because a second complicating factor is that non-native listeners can have difficulties distinguishing phonetic contrasts of a second language. This can cause pseudo-homophony (as when Japanese listeners cannot tell whether an English speaker has uttered "right" or "light"; Cutler & Otake, 2004), but it can also cause temporary competition. Weber and Cutler's (2004) eyetracking study also investigated the effect of such phonetic discrimination difficulties on competitor activation in nonnative listening. They found that Dutch listeners presented with a display containing a panda and a pencil and instructed to "click on the panda" would often first look to the pencil (again, English listeners did not do this). This is because the vowel contrast in "pan" versus "pen" does not occur in Dutch; the two English vowels are subsumed by a single category in the Dutch vowel system. **For English listeners to Russian, such difficulty may arise distinguishing \_myshka\_ (mouse) – \_mishka\_ (teddy-bear).** Thus non-native listeners' difficulty in discriminating phonetic contrasts can result in further spurious competitors; together, these effects show that recognition of spoken words is beset by far more competition for non-native than for native listeners.

## References

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This column is intended to promote a dialogue for teachers of Slavic languages regarding the psychological aspect of language learning. **Submissions for future editions of this column should be addressed to Valery Belyanin electronically to [val.belianine@utoronto.ca](mailto:val.belianine@utoronto.ca)**